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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,022	03/23/2004	Takahiro Yoshimi	CFA00064US	5696

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CANON U.S.A. INC. INTELLECTUAL PROPERTY DIVISION
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EXAMINER	
ABDIN, SHAHEDA A	
ART UNIT	**PAPER NUMBER**
2629	
MAIL DATE	**DELIVERY MODE**
09/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/808,022	YOSHIMI ET AL.	
	Examiner	Art Unit	
	Shaheda A. Abdin	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 July 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment field on 07/18/2007 has been entered and considered by examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 8 –9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tateki et al.(JP Pub No: 09-181340, see the IDS) in view of Fukasawa et al (US Pub. No: 2005/0162995 A1).

(1) Regarding claims 8:

Tateki discloses (in Fig. 32 and Fig. 34) an optical transmission device (LA) for communicating with a partner device (LB), the optical transmission device comprising:

a transmission unit for converting an electrical signal to an optical signal (0003);

a light receiving unit (9, photodetector) for converting a received optical signal to an electrical signal [0006],

Wherein the light receiving unit (9) comprises a position detecting photodetector having a plurality of light receiving units devided by parting lines (see Fig. 37) for detecting the direction of incidence of a luminance flux emitted from the partner device

(LB) ([0002], [0006],[0008]),

Tateki teaches luminous flux received by the position detecting photodetector but does not teaches the shape of a luminous flux received by the position detecting photodetector has a pattern to satisfies the following relations:

L1/L2>3 and L1>2^1/2D

where L1 represents the length of the major axis of the linearly elongated spot shape, L2 represents the length of the minor axis of the linearly elongated spot shape,

and D represents the width of the parting lines.

and the parting lines intersect with the major axis of the linearly elongated spot shape at an angle.

However, Fukasawa et al. in the same field of endeavor teaches the shape of a luminous flux received by the position detecting photodetector has a pattern to satisfies the following relations:

L1/L2>3 and L1>2^1/2D (note that in Fig. 24A and Fig. 24C, the beam spot of the light detecting surface of the photodetector have the form of elipse whose major axis extends over the light detecting areas a5 and c5 or b1 and d1; since the composite optical elements can adjust the optical axis position of the light beam (see [0325]) therefore, the relation L1/L2>3 and L1>2^1/2D is satisfied (e.g. in Fig. 24A the length of major axis is much longer than the length of minor axis towards the parting line of the photo detector elements and the length of major axis will be larger then the parting line) (see Fig. 24A, Fig. 24C, and Fig. 27, , [0285], [0295] [0016] [0164]).

and the parting lines intersect with the major axis of the linearly elongated spot shape at an angle (major axis extends over the light detecting axis, which can form an angle see Fig. 24A and [0015]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate system of the shape of a luminous flux as taught by Fukasawa in to the optical transmission system of Tateki so that the position detecting photodetector could have a pattern to satisfies the relations: L1/L2>3 and L1>2^1/2D and the the parting lines could intersect with the major axis of the linearly elongated spot shape at an angle. In this configuration the system would have accurate optical data transmission with corrected light path deviation (Fukasawa, [0034]).

(2) Regarding claim 9:

Fukasawa teaches the shape of a spot of the luminous flux (elliptical shape) is a cross pattern (cross pattern with recpect to parting lines (i.e. the lines of the division of the photo detector elements see Fig. 24A)) which at least two of the patterns overlap each other (in Fig 24A and Fig. 24C discloses the two pattern of the luminous flux and in fig 24 B shows the overlap portion) (also see column [0163-0164].

(4) Regarding claim 11:

Tateki teaches the position detecting photo detector (9) comprises at least two parting lines (see the parting lines (four lines of the photodetectors elements in Fig. 34) for equally dividing the light receiving area (also see [0008]), and Fukasawa teaches

$\sin^{-1}(D/L1) < /\theta/ < \alpha - \sin^{-1)}(D/L1)$

is satisfied, where D represents the width of the parting lines, α represents the angle formed by the parting lines, and θ represents the angle formed by the parting lines and the major axis of the spot shape (note that the angle of the cross section of the parting line in 90 degree (see Fig 10A) and the width of the parting lines is smaller

then the major axis which is discussed in claim 8, therefore $\sin^{-1}$(D/L1) <1 and the relationship $\sin^{-1}(D/L1) < /\theta/ < \alpha - \sin^{-1)}(D/L1)$ is satisfied (also see[0135—0136 and [0144].

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tateki as modified by Fukasawa as applied to claim 8 above, and further in view of Kowarz et al. (US 2004/0090599 A1).

(3) Regarding claim 10:

Note the discussion of Tateki and Fukasawa above in claim 8, both Tateki and Fukasawa fails to teach a cross pattern filter.

However. Kowardz in the same field of endeavor teaches a cross pattern filter (cross order filter 160) ([0040], Fig. 6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a cross pattern filter as taught by Kowarz in to the transmission system of Tateki as modified by Fukaswa so that the cross pattern can be formed by a cross pattern filter. In this configuration the system would have an inexpensive and better quality optical data transmission (Kowarz, [0017]).

Response to Arguments

5. Applicant's arguments with respect to claims 8-11 have been considered but are moot in view of the new ground(s) of rejection.

In view of amendment, the references Fukasawa et al. (US-2005/0162995 A1), Kowarz et al. (2004/0090599) are added for the new ground of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiry

7. Any inquiry concerning this communication should be directed to the examiner at (571) 270-1673 Monday- Friday 7:30 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen, can be reached at (571) 272-7772.

Information regarding the status on an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (tool-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9799 (IN USA OR CANADA) or 571-272-1000.

Any response to this action should be mailed to:

Commissioner of patents and trademarks

Washington, D.C. 20231

Or fax to:

(703)872-9314 (for Technology Center 2600 only)

Shaheda Abdin

09/11/2007

CHANH D. NGUYEN
SUPERVISORY PATENT EXAMINER